



Smart Transportation Alliance

2016 Annual Conference & Innovation Awards

Brussels, Wednesday 3 February 2016



Smart Transportation Alliance

Thematic Session 2:

Bringing Smart Transportation
Infrastructures into Reality

2016 STA Annual Conference & Innovation Awards

Case Studies

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Cooperative ITS Services FOTsis Case Study

José Manuel Menéndez
Jorge Alfonso

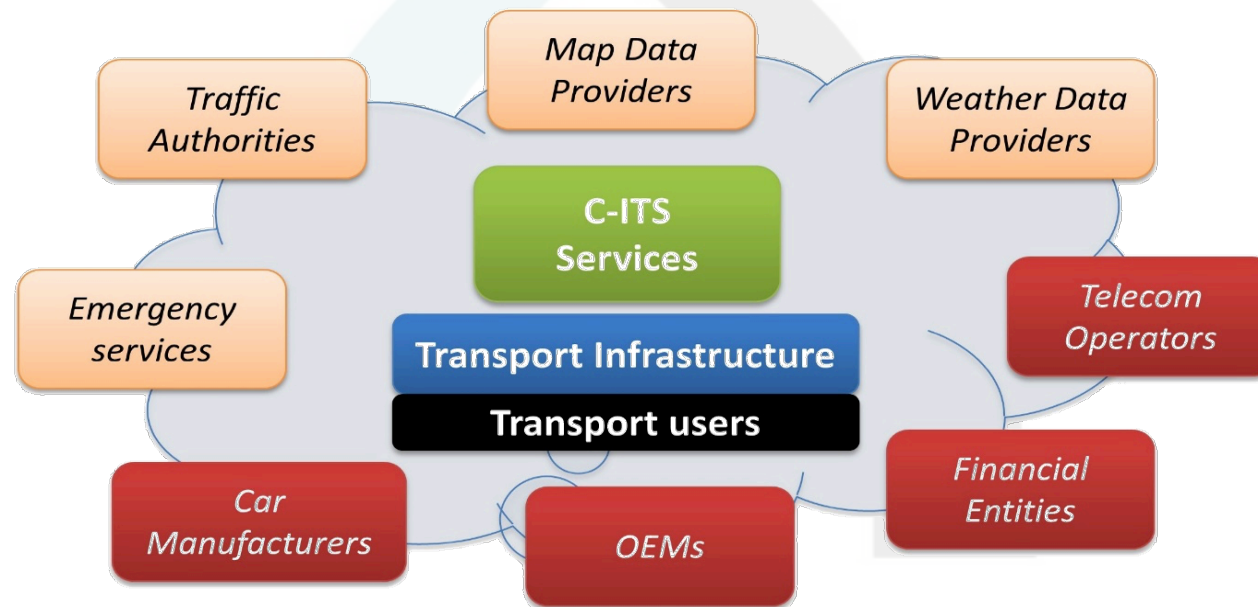
Polytechnic University of Madrid

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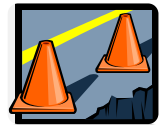
Cooperative ITS Environment

- There are several approaches to the design of C-ITS services, depending on the scope and technological resources considered.



Cooperative ITS Services

- There are different types of services with different requirements (operational, procedural, technical)
 - Quality of service (QoS), privacy & security...
- Categories of services include:
 - Safety-critical services
 - Non-safety-critical traffic management services
 - Infotainment services
 - Road charging services
 - Security-related services

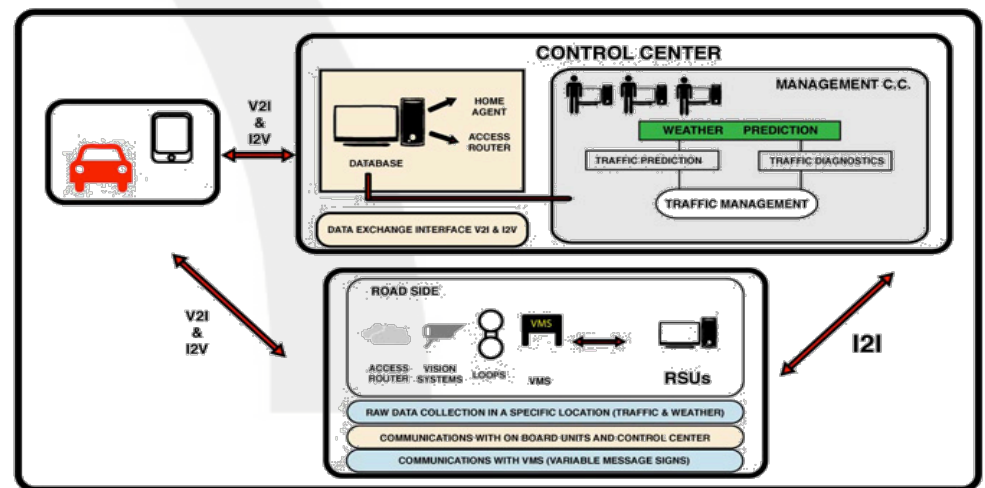


Cooperative ITS FOTsis Case Studies

- FOTsis explored certain aspects of the road services, and its architecture design exploits the complexities of the infrastructure-focused environment.
- The key of the FOTsis Cooperative services deployment was the **specification of an open, flexible communications and service architecture.**
 - Providing IP-based communications for **easy integration of both ITS and non-ITS stakeholders** and more direct projection into future developments, such as **SmartCities** and **Future Internet initiatives.**
 - Making use of the most recent communication technologies for V2I and I2V links.

Cooperative ITS FOTsis Case Study 1

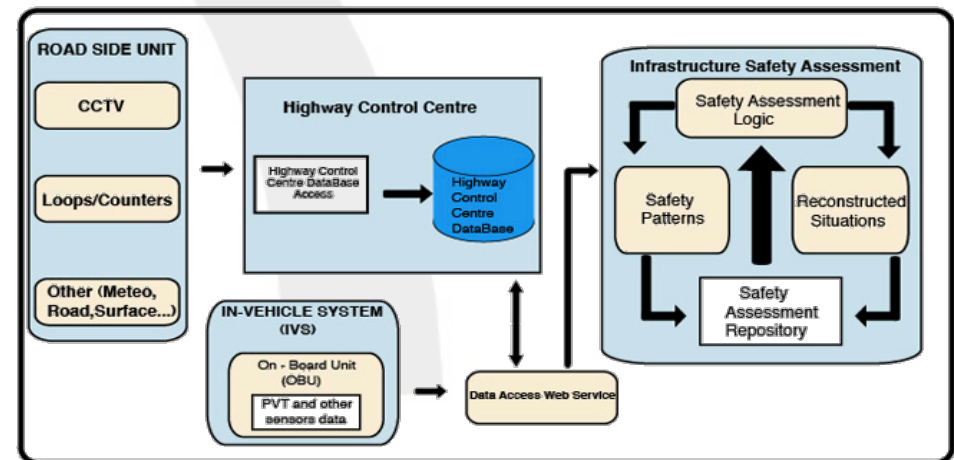
- Service 3 Intelligent Congestion Control
 - Based in the accurate collection of real-time traffic data and the prediction of traffic evolution.
 - Its objective is to control city entry speeds to minimise congestion and stop & go situations.
- Impacts on mobility and sustainability:
 - Mean speeds increase,
 - Travel times decrease, with the corresponding impact on emissions.



Cooperative ITS FOTsis Case Study 2

- Service 7 Infrastructure Safety Assessment
 - Based in the accurate collection of geo-positioned driving behaviour and conditions data for back-office analysis.
 - Its objective is to assess the safety conditions of the road by analysing driving parameters.

- Impacts on safety:
Results in a new powerful tool to support road infrastructure design.



Cooperative ITS & Future Internet

- There are other potential data sources and data processing tools that can contribute to the goal of making the road services more accurate, more resilient and more useful to the users.
- Future Internet related development: SmartCities, Internet of Things, Cloud initiatives, advanced wireless sensor networks...





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Thank You for Your Attention

**José Manuel Menéndez
Jorge Alfonso**

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